

Multithreaded Data/Context Flow Processing Architecture**ABSTRACT**

5 Multithreaded data-flow processing is achieved by flowing data
and context (thread) identification tokens through specialized
cores (functional blocks, intellectual property). Each context
identification token defines the identity of a context and
associated context parameters affecting the processing of the
data tokens. Parameter values for different contexts are stored
10 in a distributed manner throughout the cores. Upon a context
switch, only the identity of the new context is propagated. The
parameter values for the new context are retrieved from the
distributed storage locations. Different cores of the system and
different pipestages within a core can work simultaneously in
15 different contexts. The described architecture does not require
long propagation distances for parameters upon context switches,
or that an entire pipeline finish processing in one context
before starting processing in another. The system is effectively
controlled by the flow of data and context identification tokens
20 therethrough. No master context controller is needed.